



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 10/631,321      | 07/31/2003  | Charles Edward Bowers | 30-4397DIV1         | 1903             |

7590 11/03/2006  
Honeywell International Inc.  
15801 Woods Edge Road  
Colonial Heights, VA 23834

EXAMINER

HURLEY, SHAUN R

ART UNIT PAPER NUMBER

3765

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

217

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/631,321 | <b>Applicant(s)</b><br>BOWERS, CHARLES EDWARD |  |
|                              | <b>Examiner</b><br>Shaun R. Hurley   | <b>Art Unit</b><br>3765                       |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27, 28 and 30-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27, 28 and 30-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see pages 4-9, filed 07 August 2006, with respect to the rejection(s) of claim(s) 27, 28, 30-47 under nonstatutory obvious-type double patenting have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the prior art below.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 27, 28, and 30-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groshens et al (5414984).

Groshens teaches an untwisted wrapped singles yarn (Figure 3) capable of being used in a Saxony carpet, comprising a core strand (2) of multifilament polyester (Column 2, lines 55, 57) and a wrapper yarn (3) comprising a continuous filament yarn (Column 2, lines 66-67) comprising a base synthetic fiber material and a heat activated binder fiber blended therein (Column 2, lines 61-65). While Groshens essentially teaches the invention as described, he fails to specifically teach a 20°C lower melting point. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to utilize such a temperature difference between the base fibers and the binder fibers, so as to ensure the stability of the yarn. When heat

Art Unit: 3765

activated, binder fibers melt and bind the yarn together. If the melting point of the base fibers is too close to that of the binder fibers, then they will both melt together and create a very course single rod structure which is useless for further production. The ordinarily skilled artisan would obviously have understood this temperature difference and known to use such. Likewise, a weight percentage of 25-75% would have been obvious to ensure proper binding without becoming too course. In regards to the material of the wrapper base fibers, Groshens already teaches the core can be polyester, so it would be obvious to make the wrapper yarn of the same material. In regards to bulked, this would be obvious so as to create a friction to attract the wrapper yarn to the core yarn.


In regards to the myriad deniers, wrap counts, Applicant provides no criticality as to why these are patentably unobvious, and as a result they would have been obvious to one of ordinary skill in the art. Denier is a well known and understood property of yarns, dependent on the end use of the yarn, and the ordinarily skilled artisan would be capable of deciding the proper denier based on end use. For carpet use, deniers of 1000-3000 are obviously used, and given the structure as taught by Groshens, would have been compatible. Likewise wraps per inch are well known, and would have been obvious, so as to cover the core yarn to a desired degree, all within the ordinarily artisan's abilities.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaun R. Hurley whose telephone number is (571) 272-4986. The examiner can normally be reached on Mon - Fri, 6:30 am - 3:00 pm, off second Friday.

Art Unit: 3765

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on (571) 272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Shaun R Hurley  
Examiner  
Art Unit 3765

SRH  
30 October 2006